(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 10 June 2004 (10.06.2004)

PCT

(10) International Publication Number WO 2004/048590 A1

- C12P 41/00, (51) International Patent Classification7: C07D 317/32
- (21) International Application Number:

PCT/CA2003/001798

(22) International Filing Date:

18 November 2003 (18.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/426,821

18 November 2002 (18.11.2002)

- (71) Applicant (for all designated States except US): SHIRE BIOCHEM INC. [CA/CA]; 275 Armand-Frappier Boulevard, Laval, Québec H7V 4A7 (CA).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CIMPOIA, Alex [CA/CA]; App. 204, 290 Edgar, Verdun, Québec H3E 1C9 (CA). LALONDE, James, Joseph [CA/US]; 56 Glenham Street, West Roxbury, MA 02132 (US).
- (74) Agent: OGILVY RENAULT; Suite 1600, 1981 McGill College Avenue, Montréal, Québec H3A 2Y3 (CA).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: STEREOSELECTIVE PROCESS FOR THE PRODUCTION OF DIOXOLANE NUCLEOSIDE ANALOGUES

(57) Abstract: The present invention relates to a process for producing a compound of formula (I); said process comprising the steps of: a) subjecting a compound of formula (II) to an enzymatic diastereomeric resolution in the presence of a suitable amount of enzyme chosen from Pig Liver Esterase or Porcine Pancreatic Lipase b) recovering said compound of formula (I). The invention also provides a process for producing a compound of formula (III); said process comprising the steps of: a) subjecting a compounds of formula (IV) to an enzymatic diastereomeric resolution in the presence of a suitable amount of enzyme chosen from Candida Antarctica "A" lipase, Candida Antarctica "B" lipase, Candida Lypolitica Lipase or Rhizomucor Miehei Lipase b) recovering said compound of formula (III).